~~P~~ENT COOPERATION TRE~~A~~~~Y~~

PCT

NOTICE INFORMING THE APPLICANT OF THE COMMUNICATION OF THE INTERNATIONAL APPLICATION TO THE DESIGNATED OFFICES

(PCT Rule 47.1(c), first sentence)

From the INTERNATIONAL BUREAU

To:
~~MAHON, James, V.~~ JCP
Fish & Richardson P.C.   RECEIVED
Suite 2800
45 Rockefeller Plaza   JUL 1 9 1999
New York, NY 10111
ÉTATS-UNIS D'AMÉRIQUE FISH & RICHARDSON, P.C.

Date of mailing (day/month/year) 08 July 1999 (08.07.99)	
Applicant's or agent's file reference 06975/029WO1	**IMPORTANT NOTICE**

International application No. PCT/US98/27217	International filing date (day/month/year) 22 December 1998 (22.12.98)	Priority date (day/month/year) 24 December 1997 (24.12.97)

Applicant
AMERICA ONLINE, INC. et al

1. Notice is hereby given that the International Bureau has communicated, as provided in Article 20, the international application to the following designated Offices on the date indicated above as the date of mailing of this Notice:

    AU,CN,EP,IL,JP,KP,KR,US

    In accordance with Rule 47.1(c), third sentence, those Offices will accept the present Notice as conclusive evidence that the communication of the international application has duly taken place on the date of mailing indicated above and no copy of the international application is required to be furnished by the applicant to the designated Office(s).

2. The following designated Offices have waived the requirement for such a communication at this time:

    AL,AM,AP,AT,AZ,BA,BB,BG,BR,BY,CA,CH,CU,CZ,DE,DK,EA,EE,ES,FI,GB,GE,GH,GM,HR,HU,ID, IN,IS,KE,KG,KZ,LC,LK,LR,LS,LT,LU,LV,MD,MG,MK,MN,MW,MX,NO,NZ,OA,PL,PT,RO,RU,SD,SE, SG,SI,SK,SL,TJ,TM,TR,TT,UA,UG,UZ,VN,YU,ZW
    The communication will be made to those Offices only upon their request. Furthermore, those Offices do not require the applicant to furnish a copy of the international application (Rule 49.1(a-bis)).

3. Enclosed with this Notice is a copy of the international application as published by the International Bureau on

    08 July 1999 (08.07.99) under No. WO 99/34305

REMINDER REGARDING CHAPTER II (Article 31(2)(a) and Rule 54.2)

If the applicant wishes to postpone entry into the national phase until 30 months (or later in some Offices) from the priority date, **a demand for international preliminary examination** must be filed with the competent International Preliminary Examining Authority before the expiration of 19 months from the priority date.

It is the applicant's sole responsibility to monitor the 19-month time limit.

Note that only an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination.

REMINDER REGARDING ENTRY INTO THE NATIONAL PHASE (Article 22 or 39(1))

If the applicant wishes to proceed with the international application in the **national phase**, he must, within 20 months or 30 months, or later in some Offices, perform the acts referred to therein before each designated or elected Office.

For further important information on the time limits and acts to be performed for entering the national phase, see the Annex to Form PCT/IB/301 (Notification of Receipt of Record Copy) and Volume II of the PCT Applicant's Guide.

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer
Facsimile No. (41-22) 740.14.35	Telephone No. (41-22) 338.83.38

Form PCT/IB/308 (July 1996)

2710571

PATENT COOPERATION TREATY

FGB/JCP

PCT

INFORMATION CONCERNING ELECTED OFFICES NOTIFIED OF THEIR ELECTION

(PCT Rule 61.3)

From the INTERNATIONAL BUREAU

To:

PHILLIPS, John, C.
Fish & Richardson P.C.
601 13th Street, NW
Washington, DC 20005
ÉTATS-UNIS D'AMÉRIQUE

Date of mailing (day/month/year) 17 September 1999 (17.09.99)	
Applicant's or agent's file reference 06975/029WO1	**IMPORTANT INFORMATION**

International application No. PCT/US98/27217	International filing date (day/month/year) 22 December 1998 (22.12.98)	Priority date (day/month/year) 24 December 1997 (24.12.97)

Applicant   AMERICA ONLINE, INC. et al

1. The applicant is hereby informed that the International Bureau has, according to Article 31(7), notified each of the following Offices of its election:

     AP :GH,GM,KE,LS,MW,SD,SZ,UG,ZW
     EP :AT,BE,CH,CY,DE,DK,ES,FI,FR,GB,GR,IE,IT,LU,MC,NL,PT,SE
     National :AU,BG,BR,CA,CN,CZ,DE,GB,IL,JP,KP,KR,MN,NO,NZ,PL,RO,RU,SE,SK,US

2. The following Offices have waived the requirement for the notification of their election; the notification will be sent to them by the International Bureau only upon their request:

     EA :AM,AZ,BY,KG,KZ,MD,RU,TJ,TM
     OA :BF,BJ,CF,CG,CI,CM,GA,GN,GW,ML,MR,NE,SN,TD,TG
     National :AL,AM,AT,AZ,BA,BB,BY,CH,CU,DK,EE,ES,FI,GE,GH,GM,HR,HU,ID,IN,IS,
     KE,KG,KZ,LC,LK,LR,LS,LT,LU,LV,MD,MG,MK,MW,MX,PT,SD,SG,SI,SL,TJ,TM,TR,TT,
     UA,UG,UZ,VN,YU,ZW

3. The applicant is reminded that he must enter the "national phase" **before the expiration of 30 months from the priority date** before each of the Offices listed above. This must be done by paying the national fee(s) and furnishing , if prescribed, a translation of the international application (Article 39(1)(a)), as well as, where applicable, by furnishing a translation of any annexes of the international preliminary examination report (Article 36(3)(b) and Rule 74.1).

     Some offices have fixed time limits expiring later than the above-mentioned time limit. For detailed information about the applicable time limits and the acts to be performed upon entry into the national phase before a particular Office, see Volume II of the PCT Applicant's Guide.

     The entry into the European regional phase is postponed **until 31 months from the priority date** for all States designated for the purposes of obtaining a European patent.

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* No Docketing Required *
Reviewed By Practice Systems
Initials:_____
Reviewed By Billing Secretary
Initials:_____
```

FISH & RICHARDSON, P.C.
WASHINGTON, D.C.
PRACTICE SYSTEMS

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer: F. Baechler
Facsimile No. (41-22) 740.14.35	Telephone No. (41-22) 338.83.38

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Assistant Commissioner for Patents
United States Patent and Trademark
Office
Box PCT
Washington, D.C.20231
ÉTATS-UNIS D'AMÉRIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 17 September 1999 (17.09.99)	
International application No. PCT/US98/27217	**Applicant's or agent's file reference** 06975/029WO1
International filing date (day/month/year) 22 December 1998 (22.12.98)	**Priority date** (day/month/year) 24 December 1997 (24.12.97)
Applicant KENNEY, William	

1. The designated Office is hereby notified of its election made:

   [X] in the demand filed with the International Preliminary Examining Authority on:

   23 July 1999 (23.07.99)

   [ ] in a notice effecting later election filed with the International Bureau on:

2. The election [X] was

   [ ] was not

   made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	**Authorized officer** F. Baechler
Facsimile No.: (41-22) 740.14.35	Telephone No.: (41-22) 338.83.38

From the INTERNATIONAL SEARCHING AUTHORITY

PCT

To:
FISH & RICHARDSON P.C.
Attn. MAHON, J.
45 Rockefeller Plaza
Suite 2800
NEW YORK, N.Y. 10111
UNITED STATES OF AMERICA

RECEIVED

APR 2 1999

FISH & RICHARDSON, P.C.

NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL SEARCH REPORT
OR THE DECLARATION

(PCT Rule 44.1)

Date of mailing *(day/month/year)*	19/04/1999

Applicant's or agent's file reference	FOR FURTHER ACTION See paragraphs 1 and 4 below
06975/029W01	

International application No.	International filing date *(day/month/year)*
PCT/US 98/ 27217	22/12/1998

Applicant

AMERICA ONLINE, INC. et al.

---

1. [X] The applicant is hereby notified that the International Search Report has been established and is transmitted herewith.

   Filing of amendments and statement under Article 19:
   The applicant is entitled, if he so wishes, to amend the claims of the International Application (see Rule 46):

   When?   The time limit for filing such amendments is normally 2 months from the date of transmittal of the
   International Search Report; however, for more details, see the notes on the accompanying sheet.

   Where?   Directly to the   International Bureau of WIPO
                                  34, chemin des Colombettes
                                  1211 Geneva 20, Switzerland
                                  Fascimile No.: (41-22) 740.14.35

   Search Report - Response
   6/19/99

   For more detailed instructions, see the notes on the accompanying sheet.

2. [ ] The applicant is hereby notified that no International Search Report will be established and that the declaration under
   Article 17(2)(a) to that effect is transmitted herewith.

3. [ ] **With regard to the protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

   [ ] the protest together with the decision thereon has been transmitted to the International Bureau together with the
        applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.

   [ ] no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Further action(s):**   The applicant is reminded of the following:

   Shortly after **18 months** from the priority date, the international application will be published by the International Bureau.
   If the applicant wishes to avoid or postpone publication. a notice of withdrawal of the international application, or of the
   priority claim, must reach the International Bureau as provided in Rules 90*bis*.1 and 90*bis*.3, respectively, before the
   completion of the technical preparations for international publication.

   Within **19 months** from the priority date, a demand for international preliminary examination must be filed if the applicant
   wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later).

   Within **20 months** from the priority date, the applicant must perform the prescribed acts for entry into the national phase
   before all designated Offices which have not been elected in the demand or in a later election within 19 months from the
   priority date or could not be elected because they are not bound by Chapter II.

Name and mailing address of the International Searching Authority	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Lucia Van Pinxteren

Form PCT/ISA/220 (July 1998)

These Notes are intended to give the basic instructions concerning the filing of amendments under article 19. The Notes are based on the requirements of the Patent Cooperation Treaty, the Regulations and the Administrative Instructions under that Treaty. In case of discrepancy between these Notes and those requirements, the latter are applicable. For more detailed information, see also the PCT Applicant's Guide, a publication of WIPO.

In these Notes, "Article", "Rule", and "Section" refer to the provisions of the PCT, the PCT Regulations and the PCT Administrative Instructions respectively.

INSTRUCTIONS CONCERNING AMENDMENTS UNDER ARTICLE 19

The applicant has, after having received the international search report, one opportunity to amend the claims of the international application. It should however be emphasized that, since all parts of the international application (claims, description and drawings) may be amended during the international preliminary examination procedure, there is usually no need to file amendments of the claims under Article 19 except where, e.g. the applicant wants the latter to be published for the purposes of provisional protection or has another reason for amending the claims before international pbulication. Furthermore, it should be emphasized that provisional protection is available in some States only.

What parts of the international application may be amended?

Under Article 19, only the claims may be amended.

During the international phase, the claims may also be amended (or further amended) under Article 34 before the International Preliminary Examining Authority. The description and drawings may only be amended under Article 34 before the International Examining Authority.

Upon entry into the national phase, all parts of the international application may be amended under Article 28 or, where applicable, Article 41.

When?

Within 2 months from the date of transmittal of the international search report or 16 months from the priority date, whichever time limit expires later. It should be noted, however, that the amendments will be considered as having been received on time if they are received by the International Bureau after the expiration of the applicable time limit but before the completion of the technical preparations for international publication (Rule 46.1).

Where not to file the amendments?

The amendments may only be filed with the International Bureau and not with the receiving Office or the International Searching Authority (Rule 46.2).

Where a demand for international preliminary examination has been /is filed, see below.

How?

Either by cancelling one or more entire claims, by adding one or more new claims or by amending the text of one or more of the claims as filed.

A replacement sheet must be submitted for each sheet of the claims which, on account of an amendment or amendments, differs from the sheet originally filed.

All the claims appearing on a replacement sheet must be numbered in Arabic numerals. Where a claim is cancelled, no renumbering of the other claims is required. In all cases where claims are renumbered, they must be renumbered consecutively (Administrative Instructions, Section 205(b)).

The amendments must be made in the language in which the international application is to be published.

What documents must/may accompany the amendments?

Letter (Section 205(b)):

The amendments must be submitted with a letter.

The letter will not be published with the international application and the amended claims. It should not be confused with the "Statement under Article 19(1)" (see below, under "Statement under Article 19(1)").

The letter must be in English or French, at the choice of the applicant. However, if the language of the international application is English, the letter must be in English; if the language of the international application is French, the letter must be in French.

The letter must indicate the differences between the claims as filed and the claims as amended. It must, in particular, indicate, in connection with each claim appearing in the international application (it being understood that identical indications concerning several claims may be grouped),whether

    (i)   the claim is unchanged;

    (ii)   the claim is cancelled;

    (iii)   the claim is new;

    (iv)   the claim replaces one or more claims as filed;

    (v)   the claim is the result of the division of a claim as filed.

The following examples illustrate the manner in which amendments must be explained in the accompanying letter:

1. [Where originally there were 48 claims and after amendment of some claims there are 51]:
"Claims 1 to 29, 31, 32, 34, 35, 37 to 48 replaced by amended claims bearing the same numbers; claims 30, 33 and 36 unchanged; new claims 49 to 51 added."

2. [Where originally there were 15 claims and after amendment of all claims there are 11]:
"Claims 1 to 15 replaced by amended claims 1 to 11."

3. [Where originally there were 14 claims and the amendments consist in cancelling some claims and in adding new claims]:
"Claims 1 to 6 and 14 unchanged; claims 7 to 13 cancelled; new claims 15, 16 and 17 added." or
"Claims 7 to 13 cancelled; new claims 15, 16 and 17 added; all other claims unchanged."

4. [Where various kinds of amendments are made]:
"Claims 1-10 unchanged; claims 11 to 13, 18 and 19 cancelled; claims 14, 15 and 16 replaced by amended claim 14; claim 17 subdivided into amended claims 15, 16 and 17; new claims 20 and 21 added."

"Statement under article 19(1)" (Rule 46.4)

The amendments may be accompanied by a statement explaining the amendments and indicating any impact that such amendments might have on the description and the drawings (which cannot be amended under Article 19(1)).

The statement will be published with the international application and the amended claims.

It must be in the language in which the international application is to be published.

It must be brief, not exceeding 500 words if in English or if translated into English.

It should not be confused with and does not replace the letter indicating the differences between the claims as filed and as amended. It must be filed on a separate sheet and must be identified as such by a heading, preferably by using the words "Statement under Article 19(1)."

It may not contain any disparaging comments on the international search report or the relevance of citations contained in that report. Reference to citations, relevant to a given claim, contained in the international search report may be made only in connection with an amendment of that claim.

Consequence if a demand for international preliminary examination has already been filed

If, at the time of filing any amendments under Article 19, a demand for international preliminary examination has already been submitted, the applicant must preferably, at the same time of filing the amendments with the International Bureau, also file a copy of such amendments with the International Preliminary Examining Authority (see Rule 62.2(a), first sentence).

Consequence with regard to translation of the international application for entry into the national phase

The applicant's attention is drawn to the fact that, where upon entry into the national phase, a translation of the claims as amended under Article 19 may have to be furnished to the designated/elected Offices, instead of, or in addition to, the translation of the claims as filed.

For further details on the requirements of each designated/elected Office, see Volume II of the PCT Applicant's Guide.

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 06975/029W01	**FOR FURTHER ACTION**	see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable. item 5 below.
International application No. PCT/US 98/ 27217	International filing date *(day/month/year)* 22/12/1998	(Earliest) Priority Date *(day/month/year)* 24/12/1997
Applicant AMERICA ONLINE, INC. et al.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of ___3___ sheets.

[X] It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

    a. With regard to the **language,** the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

    [ ] the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

    b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

    [ ] contained in the international application in written form.

    [ ] filed together with the international application in computer readable form.

    [ ] furnished subsequently to this Authority in written form.

    [ ] furnished subsequently to this Authority in computer readble form.

    [ ] the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

    [ ] the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. [ ] **Certain claims were found unsearchable** (See Box I).

3. [ ] **Unity of invention is lacking** (see Box II).

4. With regard to the **title,**

    [ ] the text is approved as submitted by the applicant.

    [X] the text has been established by this Authority to read as follows:

    ## LOCALIZATION OF CLIENTS AND SERVERS

5. With regard to the **abstract,**

    [X] the text is approved as submitted by the applicant.

    [ ] the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No. ___3___   [ ] None of the figures.

    [ ] as suggested by the applicant.

    [ ] because the applicant failed to suggest a figure.

    [X] because this figure better characterizes the invention.

Form PCT/ISA/210 (first sheet) (July 1998)

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6   G06F17/30   H04L29/08

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6   G06F   H04L   H04Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP 0 643 541 A (AT & T CORP) 15 March 1995 see abstract see column 1, line 26 – column 2, line 2 see column 3, line 44 – column 5, line 4 see claims ---	1-21
Y	WO 97 25804 A (U S WEST INC) 17 July 1997 see abstract ---	1-21
A	EP 0 645 688 A (NEDERLAND PTT) 29 March 1995 see abstract see column 1, line 37 – column 3, line 13 ---	1-21
A	EP 0 749 081 A (POINTCAST INC) 18 December 1996 see abstract see page 4, line 23 – page 6, line 19 ---	1-21

-/--

| [X] | Further documents are listed in the continuation of box C. | [X] | Patent family members are listed in annex. |

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
13 April 1999	19/04/1999

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Abbing, R

Form PCT/ISA/210 (second sheet) (July 1992)

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document, with indication.where appropriate, of the relevant passages	Relevant to claim No.
A	"ROUTING OF INCOMING CALLS IN AN X.25 SYSTEM" IBM TECHNICAL DISCLOSURE BULLETIN, vol. 32, no. 11, 1 April 1990, pages 370-372, XP000097742 see the whole document -----	1-21

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
EP 0643541	A	15-03-1995	CA	2128306 A,C	15-03-1995
			CN	1110032 A	11-10-1995
			JP	7203081 A	04-08-1995
			US	5694459 A	02-12-1997
WO 9725804	A	17-07-1997	US	5799016 A	25-08-1998
			AU	1704097 A	01-08-1997
EP 0645688	A	29-03-1995	NL	9301633 A	18-04-1995
EP 0749081	A	18-12-1996	US	5740549 A	14-04-1998
			AT	173102 T	15-11-1998
			CA	2177441 A	13-12-1996
			DE	69600905 D	10-12-1998
			JP	9269923 A	14-10-1997

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 06975/029W01	**FOR FURTHER ACTION**	see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.
International application No. PCT/US 98/ 27217	International filing date *(day/month/year)* 22/12/1998	(Earliest) Priority Date *(day/month/year)* 24/12/1997

Applicant

AMERICA ONLINE, INC. et al.

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of _____3_____ sheets.

[X] It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

   a. With regard to the **language,** the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

   [ ] the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

   b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

   [ ] contained in the international application in written form.

   [ ] filed together with the international application in computer readable form.

   [ ] furnished subsequently to this Authority in written form.

   [ ] furnished subsequently to this Authority in computer readble form.

   [ ] the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

   [ ] the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. [ ] **Certain claims were found unsearchable** (See Box I).

3. [ ] **Unity of invention is lacking** (see Box II).

4. With regard to the **title,**

   [ ] the text is approved as submitted by the applicant.

   [X] the text has been established by this Authority to read as follows:

   ## LOCALIZATION OF CLIENTS AND SERVERS

5. With regard to the **abstract,**

   [X] the text is approved as submitted by the applicant.

   [ ] the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No. ___3___   [ ] None of the figures.

   [ ] as suggested by the applicant.

   [ ] because the applicant failed to suggest a figure.

   [X] because this figure better characterizes the invention.

Form PCT/ISA/210 (first sheet) (July 1998)

INTERNATIONAL SEARCH REPORT

●

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6   G06F17/30   H04L29/08

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 6   G06F   H04L   H04Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP 0 643 541 A (AT & T CORP) 15 March 1995 see abstract see column 1, line 26 - column 2, line 2 see column 3, line 44 - column 5, line 4 see claims ---	1-21
Y	WO 97 25804 A (U S WEST INC) 17 July 1997 see abstract ---	1-21
A	EP 0 645 688 A (NEDERLAND PTT) 29 March 1995 see abstract see column 1, line 37 - column 3, line 13 ---	1-21
A	EP 0 749 081 A (POINTCAST INC) 18 December 1996 see abstract see page 4, line 23 - page 6, line 19 ---	1-21

-/--

[X] Further documents are listed in the continuation of box C.   [X] Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
13 April 1999	19/04/1999

Name and mailing address of the ISA	Authorized officer
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Form PCT/ISA/210 (second sheet) (July 1992)

1

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication,where appropriate, of the relevant passages	Relevant to claim No.
A	"ROUTING OF INCOMING CALLS IN AN X.25 SYSTEM" IBM TECHNICAL DISCLOSURE BULLETIN, vol. 32, no. 11, 1 April 1990, pages 370-372, XP000097742 see the whole document -----	1-21

Form PCT/ISA/210 (continuation of second sheet) (July 1992)

INTERNATIONAL SEARCH REPORT

Patent document cited in search report		Publication date	Patent family member(s)			Publication date
EP 0643541	A	15-03-1995	CA	2128306	A,C	15-03-1995
			CN	1110032	A	11-10-1995
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			AT	173102	T	15-11-1998
			CA	2177441	A	13-12-1996
			DE	69600905	D	10-12-1998
			JP	9269923	A	14-10-1997

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

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NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL PRELIMINARY
EXAMINATION REPORT

(PCT Rule 71.1)

Date of mailing (day/month/year)	28. 03. 00

Applicant's or agent's file reference 06975/029WO1	IMPORTANT NOTIFICATION

International application No. PCT/US98/27217	International filing date (day/month/year) 22/12/1998	Priority date (day/month/year) 24/12/1997

Applicant

AMERICA ONLINE, INC. et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.

2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.

3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. **REMINDER**

   The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

   Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

   For further details on the applicable time limits and requirements of the elected Offices. see Volume II of the PCT Applicant's Guide.

No Declaration Required

Reviewer

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Form PCT/IPEA/416 (July 1992)

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 06975/029WO1	**FOR FURTHER ACTION**	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/US98/27217	International filing date *(day/month/year)* 22/12/1998	Priority date *(day/month/year)* 24/12/1997

International Patent Classification (IPC) or national classification and IPC G06F17/30

Applicant AMERICA ONLINE, INC. et al.

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 11 sheets, including this cover sheet.

   ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of 8 sheets.

3. This report contains indications relating to the following items:

   I   ☒   Basis of the report

   II   ☐   Priority

   III   ☒   Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

   IV   ☐   Lack of unity of invention

   V   ☒   Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations suporting such statement

   VI   ☐   Certain documents cited

   VII   ☒   Certain defects in the international application

   VIII   ☒   Certain observations on the international application

Date of submission of the demand 23/07/1999	Date of completion of this report 28. 03.

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Form PCT/IPEA/409 (cover sheet) (January 1994)

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/US98/27217

I. Basis of the report

1. This report has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

    Description, pages:

3,4,6-8	as originally filed			
1,2,5,9	as received on	21/01/2000	with letter of	21/01/2000

    Claims, No.:

1-21	as received on	21/01/2000	with letter of	21/01/2000

    Drawings, sheets:

1-3	as originally filed

2. The amendments have resulted in the cancellation of:

    - ☐ the description, pages:
    - ☐ the claims, Nos.:
    - ☐ the drawings, sheets:

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application.

- ☒ claims Nos. 17-21.

because:

☐   the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):

☒   the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 17-21 are so unclear that no meaningful opinion could be formed (*specify*):

see separate sheet

☐   the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☐   no international search report has been established for the said claims Nos. .

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	6
	No:	Claims	1-5, 7-16
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1-16
Industrial applicability (IA)	Yes:	Claims	1-16
	No:	Claims	

2. Citations and explanations

see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

The examination is being carried out on the application documents as follows :

Description, pages:

3,4,6-8	as originally filed			
1,2,5,9	as received on	21/01/2000	with letter of	21/01/2000

Claims, No.:

1-21	as received on	21/01/2000	with letter of	21/01/2000

Drawings, sheets:

1-3	as originally filed

Reference is made to the following documents :

D1:   EP-A-0 645 688 (Koninklijke PTT) 29 March 1995
D2:   WO 97 25804 A (U S WEST INC) 17 July 1997
D3:   'ROUTING OF INCOMING CALLS IN AN X.25 SYSTEM' IBM TECHNICAL DISCLOSURE
      BULLETIN, vol. 32, no. 11, 1 April 1990, pages 370-372
D4:   EP-A-0 643 541 (AT&T Corporation) 15 March 1995

Section III (No opinion)

1.   No opinion with respect to novelty and inventive step is given to dependent **claims 17-21** because of a lack of clarity (Art. 6 PCT) which obscures the subject matter for which protection is sought. Claims 17-21 define a "program apparatus" while refering back to claim 16 which does not define such a feature. It is therefore unclear for which subject matter protection is sought.

2.   A claim to a computer program as formulated in claim 16 could be worded such that it defines a computer program code means which is adapted to perform a series of steps which are defined in the claim (or to perform all the steps of a method when referring back to a method claim) when said program is run on a computer, and said computer program being embodied on a computer readable medium.

Section V (Novelty, Inventive Step)

1.   Document **D4** is to be considered as the closest prior art. It discloses a data transfer method comprising the features recited in **claim 1** (D4: column 1, line 40 to column 3 line 43): D4 discloses a terminal server ("telephone station") which connects to an information service provider (column 2, lines 39ff), said information service provider comprising a database, a switch and a voice response unit; the voice response unit is connected to IP units which are specialised for delivering the information to the terminal server (D4: column 3 lines 14ff.).

The telephone station is understood to be a sort of terminal where different clients (i.e. telephones) can be connected; a terminal server is identified through an automatic number identifier (ANI) (D4: column 3, lines 35.) which allows to determine location specific service data from said database. This is disclosed in column 6, lines 48ff., where the ANI is used to automatically provide the subscriber - via the terminal server - with the local weather report for the area in which the call originated.

The subject matter of **claim 1** is therefore **not novel over D4** in the sense of Art. 33(2) PCT.

2.1   Document **D3** discloses a data transfer method comprising the features recited in **claim 1**:
   • "receiving at a host system terminal server identification data from a terminal server" (D3: "calling address", page 371); the calling address is referred to together with the called subaddress and the call user data (D3: page 370, "router table") as the name which identifies a terminal server which emitted said call of D3 to establish a connection at a host system;
   • "querying a host system database to obtain service data based on the terminal server identification" (D3: the "router table" serving as said database", page 371; the incoming terminal identification being matched to the records of said router table and an action being determined; the action defining what to do if an application is not running at the time of the call (D3: page 370, second paragraph);
   • "sending service data ..." (D3: page 371): if the action defined by the router table is to REJECT an incoming call then a message is understood to be sent back to the terminal server which initiated said call.

2.2   It is acknowledged that D3 does not disclose the transmission of "<u>location specific</u> service data" as defined in claim 1. The router table of D3 is not understood to comprise such characterized data. D3 only states that it transmits data to the terminal server.

This depends obviously on how this feature is interpreted: there is no definition in claim 1 if the location is to be geographical (city, country, continent), physical within a network or logical. In general, a location of a terminal server is defined in the domain of networking as to be represented by the terminal server identification which is a series of four blocks of digits, according to international standards.

2.3   The D3 system rejects calls without giving further details to the terminal server which has initiated the call. A message to reject a call is not seen as comprising location specific service data. The objective technical problem to overcome would be to improve the D3 system to provide further information to each terminal server about the reasons for rejecting a call.

2.4   A possible solution to this problem is already suggested in D3 (D3: page 372, fifth paragraph) where the matching process is described and the creation of logs is suggested. The location specific service data would then be the log about the matching procedure at the host system.

As a consequence, **claim 1 is not inventive** over **D3** in the sense of Art. 33(3) PCT.

3.1   **Claim 2 and 3** : it is not understood what further limitation introduces the subject matter of these two claims over claim 1. The records of the database of claim 1 are understood to comprise service data specific to locations/terminal server identifications; thereby, a terminal server identification encodes a physical or logical location expressed by a unique, hierarchical network address. Reference is given to D2 (D2: page 32, line 17 through page 34, line 14) where such principle is further detailed : "the network ID portion of an IP-address will denote or encode a physical location of a data processing site". However, this principle is considered to be common knowledge and implicit in D4 or D3.

3.3   **Claim 4** defines in addition to the terminal server a client computer which connects

to the terminal server; the location specific service data is still linked to the location of the terminal server and the client computer is understood to serve as client-interface for the user connecting to the terminal server.

At first glance, a possible difference between **claim 4 and D4** might be that D4 does not disclose the connection of a plurality of client <u>computers</u> to said terminal server. D4 discloses a telephone <u>station</u> which allows for the connection of a plurality of telephones. The purpose of a telephone would be - at first glance - to allow for communications by speech; however, D4 anticipates also multimedia communications (D4: column 7, first paragraph) which are known to be realised at best on computers. The understanding of the feature "telephone" has be taken in the broad sense which includes a client computer.

Claim 4 is therefore **not novel** over D4.

3.4 **Claim 5** is trivial. The establishing of a data connection prior to receiving a terminal server identification data is seen as a necessary step between two systems before the exchange of any data between both systems can be realised.

3.5 **Claim 6** is not inventive in the sense of Art. 33(3) PCT. Following the line of argumentation (paragraph 3.3), D4 discloses the connection of client computers via said terminal server to said host system. The use of a modem is one of the standard methods for establishing a connection of computers on a telephone line to a server.

3.6 **Claims 7 and 8** are trivial. The identification data of a system for establishing a connection between two systems necessarily comprises a network address of said system. It is standard that this information is exchanged in the form of data packets.

3.7 **Claims 9** is not novel over D4 (D4: column 7, first paragraph). The query in D4 is based on the ANI and the "appropriate data element". Moreover it is disclosed in D4 that other information from a call set up message enables the performance of special information processing functions (D4: column 6, lines 51ff.). This additional information is considered to anticipate the feature "request data" for identifying an information service.

3.8 **Claim 10** is banal and does not add a further limitation to claim 9. According to **claim 9**, information is transmitted in a data packet from the terminal server to the host system; the data packet comprises a terminal server identification and request data; the latter identifying an information service. The received data at the host system is understood to be used to query the database; there are no further technical features defined at the host system for allowing another technical effect but an the querying of said database. For clarity purposes, it would make sense to combine both dependent claims as both comprise features which relate to the same technical effect (Rule 6.4(c) PCT and PCT/GL/III-3.6).

4.1 The same objections apply to **claims 11 and 16** as to **claim 1**. Hence, both claims are not novel over D4.

4.2 **Claims 12 and 13** are trivial. The same objections apply as to claims 7 and 8. It is also trivial that such data is transmitted in the form of data packets from which the corresponding data items are extracted from the different regions of said data packet, i.e. header, body and trailer region.

4.3 **Claim 14**: the same objections apply as to claims 2 and 3.

4.4 **Claim 15** as understood according to Section VII/VIII defines a software storage medium which is considered to be a sort of storage medium within the host system. Such a feature is trivial. Moreover, a storage medium is used to store data which includes instructions.

5. For sake of completeness, it is noted that also documents D1 and D2 are very relevant for the claimed invention and should have been refered to.

5.1 Having regard to Figure 2A and 2B of D2 and page 32, line 17 through page 35, line 28 it is illustrated that an addressing is defined being used for communicating within a network based on nodes which relate the communication requests. A database is used to store information about said connection between nodes, the location of communication terminals.

5.2 Having regard to Figure 2 of D1 and column 1, line 36 through column 3 line 14, a

method is disclosed for data transfer which allows to identification users making using via a terminal of a telecommuniations system and which forwards information between telematics servers. A particular identification server is disclosed which continues an established link for what it necessarily requires information about the location of terminal servers, apparently stored in a data base.

Section VII-VIII (Deficiencies in Form, Content, Clarity)

1.1 The applicant is informed that for clarity purposes (Art. 6 PCT) a consistent terminology shall be used throughout an application, i.e. identifying each feature with one single term.

1.2 The applicant is informed that the feature "localized data" of Figure 3 is inconsistent with the feature "location specific service data" defined in the claims. The Figures should have been amended accordingly.

2.1 **Claim 15** defines additional features of a "server" while refering to claim 14. However, claim 14 does only define a terminal server and in this context claim 15 is not understood. It is believed that the server of claim 15 refers instead to the "host system" of claim 14.

2.2 **Claims 1, 11 and 16** lack conciseness (Art. 6 PCT) as claims 1 and 16 do not define the "database" as claim 11 does: the feature "a database including a record associating a terminal server identification" is defined in claims 3.

2.3 **Claims 1 and 16** lack clarity (Art. 6 PCT) with respect to the definition of service data. The wording "to obtain service data associated with the location" appears to be to broad and could be reworded "to obtain service data specific to the location" in order to underline that the service data is specific for a certain location.

2.4 **Claims 2 and 3** lack clarity (Art. 6 PCT) with respect to the features "first record" and "record". The current wording leaves the doubt if the record of claim 3 is a second record or a further specification of the first record.

2.5 **Claim 16** lacks clarity (Art. 6 PCT) with respect to the features "interface" and "datainterface" in that it is unclear if both define one single feature.

DATA LOCALIZATION

BACKGROUND

5   Data service providers can use centralized host computer systems to provide customized information service data to users at remote client computers. The information service data may be localized. That is, the host computer may send data to a user at a remote client computer that is specific to a particular geographic or logical location. For example, a host computer can provide localized weather service data to users at client computers

10   throughout a country. To localize the weather data, the host system can select different weather data depending on the geographic location of the client computer. Data localization techniques may require that a user identify the location of interest. For example, a user may be prompted to enter address, phone number, zip code or other location identification data needed by a host system to localize data for the particular user.

15   ## SUMMARY

Localization of information service data provided by an information service host computer system to users at remote client computer systems can be facilitated by automatically determining a geographic or logical location associated with the client computer system. The automatic determination of a location can be achieved using data

20   identifying the terminal server through which a client computer accesses the host system or computer network.

In general, in one aspect, the invention features a data transfer method. The method includes receiving terminal server identification data at a host system from a terminal server, querying a database to obtain localized information service data associated with the terminal

25   server identification data, and sending the localized information service data from the host system to the terminal server.

In general, in another aspect, the invention features a computer host system. The host system includes a database system, a network interface, and a processor. The database system

includes records to associate terminal server identification data with information service data. The interface couples the host system to a communications link over which the host system can exchange data with a terminal server. The processor is coupled to the interface and to the database and is configured to receive terminal server identification data from the data

5   interface, to query the database for localized information service data associated with the terminal server identification data, and to send the localized information service data obtained by the query to the data interface for transmission to the terminal server.

In general, in another aspect, the invention features a computer program residing on a computer-readable medium. The program includes instructions for causing a computer to

10   receive terminal server identification data from a terminal server, to query a database to obtain localized information service data associated with the terminal server identification data, and to send the localized information service data from the host system to the terminal server.

Implementations may include one or more of the following features. A host system

15   database may include records associating terminal server identification data with location data and/or directly associating the identification data with localized information service data. Data connections may be established between a client computer and the terminal server and between the terminal server and a host computer system. The host system may include packet processing circuitry to receive data packets from the terminal server, and to extract terminal

20   server identification data from a header region of the data packet. For example, the host may extract the terminal server's network address from a data packet and is it as the terminal server identifier. The host may query a database based on the terminal server identification data to determine localized information to be sent to the client computer. Localization of particular data services may be done in response to a request originating at a client computer

25   identifying a specific information service. In such a case, the host may obtain localized information service data using a database query based on both the terminal server identification data and the specified information service.

The details of one or more embodiments of the invention are set forth in the accompanying drawings and the description below. Implementations may provide advantages

30   such as facilitating access to localized data without requiring user location input. Other features, objects, and advantages of the invention will be apparent from the description and drawings, and from the claims.

software, scientific software, internet access software, word processing software, and many other types of software. User applications may access computer system peripherals 112-114, 121, and 124 through an application programming interface provided by the operating system and/or may directly interact with underlying computer system 100 hardware.

5   A collection of computers 100 can serve as components of a computer network. As shown in Fig. 2, a computer network 200 can include a host computer system 210 and client computers 231-236. The client computers 231-236 can communicate with the host 210 to obtain data stored at the host 210 in databases 214-215. The client computer 231-236 may interact with the host computer 210 as if the host was a single entity in the network 200.

10   However, the host 210 may include multiple processing and database sub-systems that can be geographically dispersed throughout the network 200. For example, a host 210 may include a tightly coupled cluster 211-213 of computers 100 (Fig. 1) at a first location that access database systems 214-215 at remote locations. Each database system 214-215 may include additional processing components.

15   Client computers 231-236 can communicate with the host system 210 over, for example, a combination of public switched telephone network dial-up connections and packet network interconnections. For example, client computers 231-233 may each include a modem coupled to voiceband telephone line 241-243. To communicate with the host 210, the client computers 231-233 establish a data connection with a local terminal server 225 by dialing a

20   telephone number assigned to the local terminal server 225. A local terminal server 225 may have both dial-up and packet network interfaces allowing the server 225 to receive data from client computers 231-233, segment the received data into data packet payload segments, add overhead information to the payload segments, and send the resultant data packets over a link 221 to a packet data network 220 for delivery to the host system 210. Terminal servers 225

25   and 226 may also be referred to as a network service provider's point-of-presence (POP).

The overhead information added to the payload segments includes a packet header. A packet header includes a destination address assigned to the host system 210 and a source address assigned to the local terminal server 225. Other overhead information may include information associating the data packet with a specific client 231-233. Similarly, the host

30   system 210 may send data to a client 231-233 by segmenting the data internet packet payload segments, and adding overhead information to send the data packet to a client 231-234 at the terminal server 225. Client computers 234-236 may similarly exchange data with the host 210 over communications links 244-246 to the terminal server 226.

integrated circuits).

A number of embodiments of the present invention have been described. Nevertheless, it will be understood that various modifications may be made without departing from the spirit and scope of the invention. For example, the terminal server is not limited to a modem bank. A terminal server may be a proxy server, network gateway, network firewall, or other network element through which client computers connect to a host system and which allow a location to be associated with a client.

WHAT IS CLAIMED IS:

1.   A method for data transfer between a host system (210), a database (214, 215), and a terminal server (225, 226), the terminal server (225, 226) having a location, the method comprising the steps of:

    receiving at a host system (210), terminal server identification from a terminal server (225, 226);

    querying a database (214, 215) to obtain service data associated with the location based on the terminal server identification; and

    automatically sending the location specific service data from the host system (210) to the terminal server (225, 226).

2.   The method of claim 1 wherein the database (214, 215) includes a first record that associates the terminal server identification with the location, and the step of querying the database (214, 215) includes a step of determining the location based on the terminal server identification data from the first record.

3.   The method of claim 2 wherein the database (214, 215) further includes a record that associates the location with service data that is specific to the location, and the step of querying the database (214, 215) further comprises the step of determining the location specific service data based on the determined location.

4.   The method of claim 1 further comprising the steps of:

    establishing a data connection between the terminal server (225, 226) and a client computer;

    receiving the location specific service data at the terminal server (225, 226); and

    forwarding the location specific service data from the terminal server (225, 226) to the client computer.

5.   The method of claim 4 wherein the step of establishing a data connection is carried out prior to the step of receiving the terminal server identification.

6.   The method of claim 4 wherein the step of establishing a data connection further

3   comprises the step of receiving a dial-up modem connection from a client computer.

1

2   7.   The method of claim 1 wherein the terminal server identification comprises a
3   network address associated with the terminal server (225, 226).

1   8.   The method of claim 7 wherein the step of receiving the terminal server
2   identification further comprises the step of receiving a data packet from the terminal server (225,
3   226), the data packet including the terminal server (225, 226) network address.

1   9.   The method of claim 8 wherein the data packet includes request data received at
2   the terminal server (225, 226) from the client computer, the request data identifying an
3   information   ,   service.

1   10.   The method of claim 9 wherein the step of querying the database (214, 215)
2   further comprises querying based on the terminal server identification and the request data; and
3   the location specific service data obtained by the query of the database (214, 215) is associated
4   with both the terminal server identification data and with the service identified by the request
5   data.

1   11.   A host system (210) comprising:
2   a database (214, 215) including a record associating a terminal server identification
3   with service data specific to a location;
4   an interface to exchange data with a terminal server (225, 226) situated at a location via
5   a communications link; and
6   a processor configured to receive the terminal server identification from the data
7   interface, to query the database (214, 215) for location specific service data associated with the
8   terminal server identification, and to send the location specific service data obtained by the
9   query to the datainterface for transmission to the terminal server (225, 226).

1   12.   The host system (210) of claim 11 wherein:
2   the terminal server identification comprises a network address associated with the
3   terminal server (225, 226); and

4   the interface includes packet processing circuitry to receive a data packet from the

5   terminal server (225, 226) and extract the terminal server identification from a header region of

6   the data packet.

1   13.   The host system (210) of claim 12 wherein the network address comprises an

2   internet protocol address.

1   14.   The host system (210) of claim 11 wherein the database (214, 215) includes a

2   disk storage medium comprising a plurality of records associating terminal server

3   identifications with locations and a plurality of records associating locations with service data.

1   15.   The server of claim 14 further comprising a software storage media coupled to the

2   processor, the media storing instructions to configure the processor to query the database (214,

3   215), instructions to retrieve locations associated with terminal server identifications and

4   instructions to query the database (214, 215) to retrieve service data associated with locations.

1   16.   A computer program residing on a computer-readable medium, comprising

2   instructions for causing a computer to:

3   receive terminal server identification from a terminal server (225, 226);

4   query a database (214, 215) to obtain location specific service data associated with the

5   terminal server identification; and

6   send the location specific service data to the terminal server (225, 226).

1   17.   The program apparatus of claim 16 wherein the instructions to query the database

2   (214, 215) comprise instructions to query the database (214, 215) to determine a location based

3   on the received terminal server identification.

4

1   18.   The program apparatus of claim 16 wherein the terminal server identification

2   comprises a network address associated with the terminal server (225, 226).

1   19.   The program apparatus of claim 16 wherein the instructions to receive the

2   terminal server identification comprises instructions to receive a data packet from the terminal

3   server (225, 226), the data packet including the terminal server network address.

1   20.   The program apparatus of claim 19 wherein the data packet further comprises

2   request data received at the terminal server (225, 226) from a client computer, the request data

3   identifying a service.

1   21.   The program apparatus of claim 20 wherein:

2   the instructions to query the database (214, 215) comprise instructions to query the

3   database (214, 215) based on the terminal server identification and the request data; and the

4   location specific service data obtained by the query is associated with both the terminal server

5   identification and with the service identified by the request data.

16

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 06975/029WO1	**FOR FURTHER ACTION**	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)

International application No. PCT/US98/27217	International filing date *(day/month/year)* 22/12/1998	Priority date *(day/month/year)* 24/12/1997

International Patent Classification (IPC) or national classification and IPC
G06F17/30

Applicant

AMERICA ONLINE, INC. et al.

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 11 sheets, including this cover sheet.

   ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of 8 sheets.

3. This report contains indications relating to the following items:

   I   ☒ Basis of the report

   II   ☐ Priority

   III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

   IV ☐ Lack of unity of invention

   V   ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations suporting such statement

   VI ☐ Certain documents cited

   VII ☒ Certain defects in the international application

   VIII ☒ Certain observations on the international application

Date of submission of the demand 23/07/1999	Date of completion of this report 28. 03. 00

Name and mailing address of the international preliminary examining authority:
 	
   European Patent Office
   D-80298 Munich
   Tel. +49 89 2399 - 0 Tx: 523656 epmu d
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	Authorized officer
	
	Glaser, N
	
	Telephone No. +49 89 2399 8336

Form PCT/IPEA/409 (cover sheet) (January 1994)

I. Basis of the report

1. This report has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

Description, pages:

3,4,6-8	as originally filed			
1,2,5,9	as received on	21/01/2000	with letter of	21/01/2000

Claims, No.:

1-21	as received on	21/01/2000	with letter of	21/01/2000

Drawings, sheets:

1-3	as originally filed

2. The amendments have resulted in the cancellation of:

☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application.

☒ claims Nos. 17-21.

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):

☒ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 17-21 are so unclear that no meaningful opinion could be formed (*specify*):

see separate sheet

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☐ no international search report has been established for the said claims Nos. .

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	6
	No:	Claims	1-5, 7-16
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1-16
Industrial applicability (IA)	Yes:	Claims	1-16
	No:	Claims	

2. Citations and explanations

see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

The examination is being carried out on the application documents as follows :

Description, pages:

3,4,6-8	as originally filed			
1,2,5,9	as received on	21/01/2000	with letter of	21/01/2000

Claims, No.:

1-21	as received on	21/01/2000	with letter of	21/01/2000

Drawings, sheets:

1-3	as originally filed

Reference is made to the following documents :

D1: EP-A-0 645 688 (Koninklijke PTT) 29 March 1995
D2: WO 97 25804 A (U S WEST INC) 17 July 1997
D3: 'ROUTING OF INCOMING CALLS IN AN X.25 SYSTEM' IBM TECHNICAL DISCLOSURE
     BULLETIN, vol. 32, no. 11, 1 April 1990, pages 370-372
D4: EP-A-0 643 541 (AT&T Corporation) 15 March 1995

Section III (No opinion)

1.   No opinion with respect to novelty and inventive step is given to dependent **claims 17-21** because of a lack of clarity (Art. 6 PCT) which obscures the subject matter for which protection is sought. Claims 17-21 define a "program apparatus" while refering back to claim 16 which does not define such a feature. It is therefore unclear for which subject matter protection is sought.

2.   A claim to a computer program as formulated in claim 16 could be worded such that it defines a computer program code means which is adapted to perform a series of steps which are defined in the claim (or to perform all the steps of a method when referring back to a method claim) when said program is run on a computer, and said computer program being embodied on a computer readable medium.

Section V (Novelty, Inventive Step)

1.   Document **D4** is to be considered as the closest prior art. It discloses a data transfer method comprising the features recited in **claim 1** (D4: column 1, line 40 to column 3 line 43): D4 discloses a terminal server ("telephone station") which connects to an information service provider (column 2, lines 39ff), said information service provider comprising a database, a switch and a voice response unit; the voice response unit is connected to IP units which are specialised for delivering the information to the terminal server (D4: column 3 lines 14ff.).

The telephone station is understood to be a sort of terminal where different clients (i.e. telephones) can be connected; a terminal server is identified through an automatic number identifier (ANI) (D4: column 3, lines 35.) which allows to determine location specific service data from said database. This is disclosed in column 6, lines 48ff., where the ANI is used to automatically provide the subscriber - via the terminal server - with the local weather report for the area in which the call originated.

The subject matter of **claim 1** is therefore **not novel over D4** in the sense of Art. 33(2) PCT.

2.1   Document **D3** discloses a data transfer method comprising the features recited in **claim 1**:
   - "receiving at a host system terminal server identification data from a terminal server" (D3: "calling address", page 371); the calling address is referred to together with the called subaddress and the call user data (D3: page 370, "router table") as the name which identifies a terminal server which emitted said call of D3 to establish a connection at a host system;
   - "querying a host system database to obtain service data based on the terminal server identification" (D3: the "router table" serving as said database", page 371; the incoming terminal identification being matched to the records of said router table and an action being determined; the action defining what to do if an application is not running at the time of the call (D3: page 370, second paragraph);
   - "sending service data ..." (D3: page 371): if the action defined by the router table is to REJECT an incoming call then a message is understood to be sent back to the terminal server which initiated said call.

2.2   It is acknowledged that D3 does not disclose the transmission of "<u>location specific</u> service data" as defined in claim 1. The router table of D3 is not understood to comprise such characterized data. D3 only states that it transmits data to the terminal server.

This depends obviously on how this feature is interpreted: there is no definition in claim 1 if the location is to be geographical (city, country, continent), physical within a network or logical. In general, a location of a terminal server is defined in the domain of networking as to be represented by the terminal server identification which is a series of four blocks of digits, according to international standards.

2.3   The D3 system rejects calls without giving further details to the terminal server which has initiated the call. A message to reject a call is not seen as comprising location specific service data. The objective technical problem to overcome would be to improve the D3 system to provide further information to each terminal server about the reasons for rejecting a call.

2.4   A possible solution to this problem is already suggested in D3 (D3: page 372, fifth paragraph) where the matching process is described and the creation of logs is suggested. The location specific service data would then be the log about the matching procedure at the host system.

As a consequence, **claim 1 is not inventive** over **D3** in the sense of Art. 33(3) PCT.

3.1   **Claim 2 and 3** : it is not understood what further limitation introduces the subject matter of these two claims over claim 1. The records of the database of claim 1 are understood to comprise service data specific to locations/terminal server identifications; thereby, a terminal server identification encodes a physical or logical location expressed by a unique, hierarchical network address. Reference is given to D2 (D2: page 32, line 17 through page 34, line 14) where such principle is further detailed : "the network ID portion of an IP-address will denote or encode a physical location of a data processing site". However, this principle is considered to be common knowledge and implicit in D4 or D3.

3.3   **Claim 4** defines in addition to the terminal server a client computer which connects

to the terminal server; the location specific service data is still linked to the location of the terminal server and the client computer is understood to serve as client-interface for the user connecting to the terminal server.

At first glance, a possible difference between **claim 4 and D4** might be that D4 does not disclose the connection of a plurality of client <u>computers</u> to said terminal server. D4 discloses a telephone <u>station</u> which allows for the connection of a plurality of telephones. The purpose of a telephone would be - at first glance - to allow for communications by speech; however, D4 anticipates also multimedia communications (D4: column 7, first paragraph) which are known to be realised at best on computers. The understanding of the feature "telephone" has be taken in the broad sense which includes a client computer.

Claim 4 is therefore **not novel** over D4.

3.4   **Claim 5** is trivial. The establishing of a data connection prior to receiving a terminal server identification data is seen as a necessary step between two systems before the exchange of any data between both systems can be realised.

3.5   **Claim 6** is not inventive in the sense of Art. 33(3) PCT. Following the line of argumentation (paragraph 3.3), D4 discloses the connection of client computers via said terminal server to said host system. The use of a modem is one of the standard methods for establishing a connection of computers on a telephone line to a server.

3.6   **Claims 7 and 8** are trivial. The identification data of a system for establishing a connection between two systems necessarily comprises a network address of said system. It is standard that this information is exchanged in the form of data packets.

3.7   **Claims 9** is not novel over D4 (D4: column 7, first paragraph). The query in D4 is based on the ANI and the "appropriate data element". Moreover it is disclosed in D4 that other information from a call set up message enables the performance of special information processing functions (D4: column 6, lines 51ff.). This additional information is considered to anticipate the feature "request data" for identifying an information service.

3.8   **Claim 10** is banal and does not add a further limitation to claim 9. According to **claim 9**, information is transmitted in a data packet from the terminal server to the host system; the data packet comprises a terminal server identification and request data; the latter identifying an information service. The received data at the host system is understood to be used to query the database; there are no further technical features defined at the host system for allowing another technical effect but an the querying of said database. For clarity purposes, it would make sense to combine both dependent claims as both comprise features which relate to the same technical effect (Rule 6.4(c) PCT and PCT/GL/III-3.6).

4.1   The same objections apply to **claims 11 and 16** as to **claim 1**. Hence, both claims are not novel over D4.

4.2   **Claims 12 and 13** are trivial. The same objections apply as to claims 7 and 8. It is also trivial that such data is transmitted in the form of data packets from which the corresponding data items are extracted from the different regions of said data packet, i.e. header, body and trailer region.

4.3   **Claim 14**: the same objections apply as to claims 2 and 3.

4.4   **Claim 15** as understood according to Section VII/VIII defines a software storage medium which is considered to be a sort of storage medium within the host system. Such a feature is trivial. Moreover, a storage medium is used to store data which includes instructions.

5.   For sake of completeness, it is noted that also documents D1 and D2 are very relevant for the claimed invention and should have been refered to.

5.1   Having regard to Figure 2A and 2B of D2 and page 32, line 17 through page 35, line 28 it is illustrated that an addressing is defined being used for communicating within a network based on nodes which relate the communication requests. A database is used to store information about said connection between nodes, the location of communication terminals.

5.2   Having regard to Figure 2 of D1 and column 1, line 36 through column 3 line 14, a

method is disclosed for data transfer which allows to identification users making using via a terminal of a telecommuniations system and which forwards information between telematics servers. A particular identification server is disclosed which continues an established link for what it necessarily requires information about the location of terminal servers, apparently stored in a data base.

Section VII-VIII (Deficiencies in Form, Content, Clarity)

1.1   The applicant is informed that for clarity purposes (Art. 6 PCT) a consistent terminology shall be used throughout an application, i.e. identifying each feature with one single term.

1.2   The applicant is informed that the feature "localized data" of Figure 3 is inconsistent with the feature "location specific service data" defined in the claims. The Figures should have been amended accordingly.

2.1   **Claim 15** defines additional features of a "server" while refering to   claim 14. However, claim 14 does only define a terminal server and in this context claim 15 is not understood. It is believed that the server of claim 15 refers instead to the "host system" of claim 14.

2.2   **Claims 1, 11 and 16** lack conciseness (Art. 6 PCT) as claims 1 and 16 do not define the "database" as claim 11 does: the feature "a database including a record associating a terminal server identification" is defined in claims 3.

2.3   **Claims 1 and 16** lack clarity (Art. 6 PCT) with respect to the definition of service data. The wording "to obtain service data associated with the location" appears to be to broad and could be reworded "to obtain service data specific to the location" in order to underline that the service data is specific for a certain location.

2.4   **Claims 2 and 3** lack clarity (Art. 6 PCT) with respect to the features "first record" and "record". The current wording leaves the doubt if the record of claim 3 is a second record or a further specification of the first record.

2.5   **Claim 16** lacks clarity (Art. 6 PCT) with respect to the features "interface" and "datainterface" in that it is unclear if both define one single feature.

From the:
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

PHILLIPS, John C.
FISH & RICHARDSON P.C.
45 Rockefeller Plaza
Suite 2800
NEW YORK, N.Y. 10111
ETATS-UNIS D'AMERIQUE

RECEIVED

OCT 2 8 1999

FISH & RICHARDSON, P.C.
NEW YORK CITY OFFICE

PCT

WRITTEN OPINION

(PCT Rule 66)

Date of mailing (day/month/year)	2 1. 10. 99

Applicant's or agent's file reference	REPLY DUE	**within 3 month(s)** from the above date of mailing
06975/029WO1		

International application No.	International filing date (day/month/year)	Priority date (day/month/year)
PCT/US98/27217	22/12/1998	24/12/1997

International Patent Classification (IPC) or both national classification and IPC

G06F17/30

Applicant

AMERICA ONLINE, INC. et al.

1. This written opinion is the **first** drawn up by this International Preliminary Examining Authority.

2. This opinion contains indications relating to the following items:

   resp to written opinion
   due 1/21/00
   Initials: *MBM*
   Record: *3/885*

I	☒	Basis of the opinion
II	☐	Priority
III	☒	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
IV	☐	Lack of unity of invention
V	☒	Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
VI	☐	Certain document cited
VII	☒	Certain defects in the international application
VIII	☒	Certain observations on the international application

   Docketed by Phillips Secretary
   Due Date 1/21/00
   Deadline:
   Initials:

3. The applicant is hereby **invited to reply** to this opinion.

   When? See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(d).

   How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3.
   For the form and the language of the amendments, see Rules 66.8 and 66.9.

   Also: For an additional opportunity to submit amendments, see Rule 66.4.
   For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4 bis.
   For an informal communication with the examiner, see Rule 66.6.

   If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.

4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: 24/04/2000.

Name and mailing address of the international preliminary examining authority:	Authorized officer / Examiner
European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Glaser. N
	Formalities officer (incl. extension of time limits) Schall. H Telephone No. +49 89 2399 2647

Form PCT/IPEA/408 (cover sheet) (January 1994)

I. Basis of the opinion

1. This opinion has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed".*):

Description, pages:

1-9   as originally filed

Claims, No.:

1-21   as originally filed

Drawings, sheets:

1-3   as originally filed

2. The amendments have resulted in the cancellation of:

☐   the description,   pages:

☐   the claims,   Nos.:

☐   the drawings,   sheets:

3. This opinion has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been and will not be examined in respect of:

☐   the entire international application.

☒   claims Nos. 2, 3, 14, 17,

because:

☐   the said international application. or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):

☒   the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 2. 3, 14, 17 are so unclear that no meaningful opinion could be formed (*specify*):

see separate sheet

☐   the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☐   no international search report has been established for the said claims Nos. .

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1, 4-13 (no), 15-16 (no), 18-21 (no)
Inventive step (IS)	Claims	1, 4-13 (no), 15-16 (no), 18-21 (no)
Industrial applicability (IA)	Claims	1-21 (yes)

2. Citations and explanations

see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

The examination is being carried out on the application documents as **originally filed**.

Reference is made to the following documents
D1: EP-A-0 645 688 (Koninklijke PTT) 29 March 1995
D2: WO 97 25804 A (U S WEST INC) 17 July 1997
D3: 'ROUTING OF INCOMING CALLS IN AN X.25 SYSTEM' IBM TECHNICAL DISCLOSURE
      BULLETIN, vol. 32, no. 11, 1 April 1990, pages 370-372

Section III (No opinion)

1.   **Claims 2, 3, 14 and 17** are so unclear (see Section VII/VIII) that it is not at present
       practicable to carry out an examination of these claims. The examination is
       postponed until the above objections are overcome.

Section V (Novelty, Inventive Step)

1.1   Document **D3** discloses a data transfer method comprising the features recited in
       claim 1:
       • "receiving at a host system terminal server identification data from a terminal
         server" (D3: "calling address" supposing the reception of incoming calls, page
         371)
       • "querying a host system database to obtain localized information service data"
         (D3: the "router table" serving as said database", page 371);
       • "sending the localized information service ..." (D3: "subaddress" and performing
         an action, page 371).

       The subject matter of **claim 1** as presently formulated is therefore not novel over D3
       in the sense of Art. 33(2) PCT. It is added that the purpose of the routing table of D3
       is exactly what is defined by the subject-matter of claim 1, that is, the querying of a
       database, i.e. routing table, to obtain further information about the localisation of the
       terminal server. It is noted that such a table comprises precise information about the
       location of said terminal server and additional information for characterising said
       server.

1.2   **Claim 4** is not novel over D3. It is implicitly disclosed in D3 that said information,

comprising also <u>user data</u>, is forwarded to a client computer where a user would be connected to said host system via said terminal server.

1.3 **Claim 5** is trivial. The establishing of a data connection prior to receiving the terminal server identification data is seen as a necessary step between two systems before exchanging any data between said systems.

1.4 **Claim 6** is not inventive in the sense of Art. 33(3) PCT. The use of a modem is one of the standard methods for establishing a connection between two systems and obvious to the skilled person in the art.

1.5 **Claims 7 and 8** are trivial. The identification data of a system for establishing a connection between two systems necessarily comprises a network address of said system. It is standard that this information is exchanged in the form of data packets

1.6 **Claims 9 and 10** are not novel over D3. A data packet comprises generally additional information which would be in the case of the D3 system the identification of an action of the information service required by a client. It is implicit that said query is based on the terminal server identification data and the received request which is suggested by the different types of information stored in said routing table. The feature "associating the localized information service data ..." is not understood as its technical effect is not clear; receiving a result form a query based on some output is always some kind of associating of information.

However, it is also noted that a permanent association of the input and output of a query through a storage operation in said routing table would be an obvious step to retrieve said information faster if a subsequent query is similar to the already received ones. This feature - even clarified - would therefore not lead to an inventive step.

2. The same objections apply to **claims 11 and 16** as to claim 1. Hence, both claims are not novel.

3.1 **Claims 12 and 13** are trivial. The same objections apply as to claims 7 and 8. It is also trivial that such data is transmitted in the form of data packets from which the

corresponding data items are extracted from the different regions of said data packet, i.e. header, body and trailer region.

3.2 The same objections apply to **claim 15** as to claim 10.

3.3 The same objections apply to **claims 18 and 19** as to claims 7 and 8.

3.4 The same objections apply to **claim 20** as to claim 9.

3.5 The same objections apply to **claim 21** as to claim 10.

4. For sake of completeness, it is noted that also documents D1 and D2 are very relevant for the claimed invention and may be considered as novelty destroying.

4.1 Having regard to Figure 2A and 2B of D2 and page 32, line 17 through page 35, line 28 it is illustrated that an addressing is defined being used for communicating within a network based on nodes which relate the communication requests. A data base is used to stored information about said connection between nodes, the location of communication terminals.

4.2 Having regard to Figure 2 of D1 and column 1, line 36 through column 3 line 14, a method is disclosed for data transfer which allows to identification users making using via a terminal of a telecommuniations system and which forwards information between telematics servers. A particular identification server is disclosed which continues an established link for what it necessarily requires information about the location of terminal servers, apparently stored in a data base.

Section VII-VIII (Deficiencies in Form, Content, Clarity)

1. **Claims 1-21** do not meet the requirements of Article 6 PCT in that the matter for which protection is sought is not cleary defined. The claim attempts to define the subject-matter at hand of terms which do not have a precise technical meaning and which therefore obscure the claim (PCT Guidelines C-III, 4.1-4.3) :

- the feature "localized information service data" and the "association [of this data] with the terminal server identification data" is not understood;
- the features "location data" and "determining a location" are not understood;
- the feature "determined location" is not understood.

These features should be clearly defined in the claims that they are clear as such and that their technial effect and contribution in solving the technial problem is clearly understandable. As presently formulated, these features are disregarded from feature examination.

2.1 Having regard to description and the Figures, in particular Figure 2 and 3, the independent claims do not appear to define all of the essential features of the claimed invention as it would be necessary to solve the technical problem.

2.2 The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT). The claims should be adapted accordingly.

3.1 The references to the patent applications on page 1 are ambiguous and should be cleary identified : an unpublished application, (i.e., not published before the international filing date) should not be regarded as being part of the disclosure, unless the application referred to is made available to the public on or before the publication date of the international application (PCT Guidelines C-II-4.17a).

3.2 It is noted that the reference to prior art documents should be such that these documents are clearly identified (PCT/GL/C-II 4.17 and 4.6) and not misleading. Consequently, the publication number should be used instead of the application number.

3.3 If matter in the document referred to is essential to satisfy the requirements of Article 5 PCT, this matter should be incorporated in the description, because the patent specification' should, regarding the essential features of the invention, be self-contained, i.e., capable of being understood without reference to any other document (PCT Guidelines C-II-4.17). Consequently, any fomulation like "incorporated by" should be deleted.

3.4 The vague statement in the description on page 9, lines 7-9, implies that the subject-matter for which protection is sought may be different to that defined by the claims, thereby resulting in lack of clarity (Article 6 PCT) when used to interpret them (see also the PCT Guidelines, PCT/GL/3 III, 4.3a).4 PCT). This statement should therefore be deleted to remove this inconsistency.

Other matters

1.   In order to facilitate the examination of the conformity of the amended application with the requirements of Art. 34(2) PCT, the applicant is requested to clearly identify the amendments carried out, no matter whether they concern amendments by addition, replacement or deletion, and to indicate the passages of the application as filed on which these amendments are based (see also Rule 66.8(a) PCT).

2.   If the applicant regards it as appropriate these indications could be submitted in handwritten form on a copy of the relevant parts of the applicant as filed. The applicant is requested to file amendments by way of replacement pages in the manner stipulated by Rule 66.8(a) PCT. Fair copies of the amendments should be filed in triplicate.

3.   Moreover, the applicant's attention is drawn to the fact that, as a consequence of Rule 66.8(a) PCT the examiner is not permitted to carry out any amendments under the PCT procedure, however minor these may be.

**Europäisches
Patentamt**

**European
Patent Office**

**Office européen
des brevets**

Correspondence with the EPO on PCT Chapter II demands

In order to ensure that your PCT Chapter II demand is dealt with as promptly as possible you are requested to use the enclosed self-adhesive labels with any correspondence relating to the demand sent to the Munich Office.

One of these labels should be affixed to a prominent place in the upper part of the letter or form etc. which you are filing.

DATA LOCALIZATION

[Priority based on United States provisional patent application serial number 60/068,868 filed December 24, 1997 and on provisional patent application serial number 60/070,617, filed on
5   January 6, 1998, is claimed.]

BACKGROUND

Data service providers can use centralized host computer systems to provide customized information service data to users at remote client computers. The information service data may be localized. That is, the host computer may send data to a user at a remote
10   client computer that is specific to a particular geographic or logical location. For example, a host computer can provide localized weather service data to users at client computers throughout a country. To localize the weather data, the host system can [selects] select different weather data depending on the geographic location of the client computer. Data localization techniques may require that a user [to] identify the location of interest. For
15   example, a user may be prompted to enter address, phone number, zip code or other location identification data needed by a host system to localize data for the particular user.

SUMMARY

Localization of information service data provided by an information service host computer system to users at remote client computer systems can be facilitated by
20   automatically determining a geographic or logical location associated with the client computer system. The automatic determination of a location can be achieved using data identifying the terminal server through which a client computer accesses the host system or computer network.

In general, in one aspect, the invention features a data transfer method. The method
25   includes receiving terminal server identification data at a host system from a terminal server, querying a database to obtain localized information service data associated with the terminal server identification data, and sending the localized information service data from the host system to the terminal server.

In general, in another aspect, the invention features a computer host system. The host
30   system includes a database system, a network interface, and a processor. The database system

includes records to associate terminal server identification data with information service data. The interface couples the host system to a communications link over which the host system can exchange data with a terminal server. The processor is coupled to the interface and to the database and is configured to receive terminal server identification data from the data

5 interface, to query the database for localized information service data associated with the terminal server identification data, and to send the localized information service data obtained by the query to the data interface for transmission to the terminal server.

In general, in another aspect, the invention features a computer program residing on a computer-readable medium. The program includes instructions for causing a computer to

10 receive terminal server identification data from a terminal server, to query a database to obtain localized information service data associated with the terminal server identification data, and to send the localized information service data from the host system to the terminal server.

Implementations may include one or more of the following features. A host system

15 database may include records associating terminal server identification data with location data and/or directly associating the identification data with localized information service data. Data connections may be established between a client computer and the terminal server and between the terminal server and a host computer system. The host system may include packet processing circuitry to receive data packets from the terminal server, and to extract terminal

20 server identification data from a header region of the data packet. For example, the host may extract the terminal server's network address from a data packet and is it as the terminal server identifier. The host may query a database based on the terminal server identification data to determine localized information to be sent to the client computer. Localization of particular data services may be done in response to a request originating at a client computer

25 identifying a specific information service. In such a case, the host may obtain localized information service data using a database query based on both the terminal server identification data and the specified information service.

The details of one or more embodiments of the invention are set forth in the accompanying drawings and the description below. Implementations may provide advantages

30 such as facilitating access to localized data without requiring user location input. Other features, objects, and advantages of the invention will be apparent from the description and drawings, and from the claims.

applications. User applications may be commercially available software programs such as the America Online Version 4.0 client software, computer aided drawing and manufacturing software, scientific software, internet access software, word processing software, and many other types of software. User applications may access computer system peripherals 112-114, 121, and 124 through an application programming interface provided by the operating system and/or may directly interact with underlying computer system 100 hardware.

A collection of computers 100 can serve as components of a computer network. As shown in Fig. 2, a computer network 200 can include a host computer system 210 and client computers 231-236. The client computers 231-236 can communicate with the host 210 to obtain data stored at the host 210 in databases 214-215. The client computer 231-236 may interact with the host computer 210 as if the host was a single entity in the network 200. However, the host 210 may include multiple processing and database sub-systems that can be geographically dispersed throughout the network 200. For example, a host 210 may include a tightly coupled cluster 211-213 of computers 100 (Fig. 1) at a first location that access database systems 214-215 at remote locations. Each database system 214-215 may include additional processing components.

Client computers 231-236 can communicate with the host system 210 over, for example, a combination of public switched telephone network dial-up connections and packet network interconnections. For example, client computers 231-233 may each include a modem coupled to voiceband telephone line 241-243. To communicate with the host 210, the client computers 231-233 establish a data connection with a local terminal server 225 by dialing a telephone number assigned to the local terminal server 225. A local terminal server 225 may have both dial-up and packet network interfaces allowing the server 225 to receive data from client computers 231-233, segment the received data into data packet payload segments, add overhead information to the payload segments, and send the resultant data packets over a link 221 to a packet data network 220 for delivery to the host system 210. Terminal servers 225 and 226 may also be referred to as a network service provider's point-of-presence (POP).

The overhead information added to the payload segments [include] **includes** a packet header. A packet header [include] **includes** a destination address assigned to the host system 210 and a source address assigned to the local terminal server 225. Other overhead information may include information associating the data packet with a specific client 231-233. Similarly, the host system 210 may send data to a client 231-233 by segmenting the data into data packet

payload segments, and adding overhead information to send the data packet to a client 231-234 at the terminal server 225. Client computers 234-236 may similarly exchange data with the host 210 over communications links 244-246 to the terminal server 226.

Data packet formats, switching equipment within the packet network 220, and networking protocols used within the network 200 may conform to the transaction control protocol /internet protocol (TCP/IP). In a TCP/IP implementation, the host 210, packet network 220, terminal servers 225 and 226 are each assigned a unique internet protocol (IP) network address. TCP/IP switching equipment within the network 220 can direct a TCP/IP packet to the intended recipient 210,225, or 226 based on the packet's destination IP address. Implementations may use other networking protocols and packet formats.

The host computer 210 can provide information services to one or more client computers 231-236. Information services provided by the host 210 include, for example, weather reports, sports team scores, travel, shopping services, games, personal finance, local, national, and international news, local traffic conditions and other general and special interest data services. The America Online® Version 4.0 service, available from America Online, Inc., is an example of an information service using a host system 210 to deliver a broad range of information services to multiple client computers. In an America Online implementation, [a] client computers 231-236 can be a personal computer such as an Apple Macintosh TM *or* industry-standard Intel x86 compatible computer. In the America Online Version 4.0 system, client computers execute America Online Version 4.0 client software to access a host system using, for example, a voiceband modem, a cable modem, or a TCP/IP connection.

Information service data provided by a host 210 can include localized data. Localized information service data can be automatically determined based on the location of the terminal server 225-226 or other point-of-presence through which the client accesses the network 200. Automatic localization based on the location of a terminal server or POP allows information service data to be localized without requiring manual location input by a user.

Referring to Figs. 2 and 3, in an automated localization system, a client 231 connects to a terminal server 225 or other network point-of-presence. The terminal server 225 may then send information between the client 231 and host 210 through the packet network 220. Overhead information in the data packets sent from the terminal server 225 to the host 210 include terminal server identification information, such as the terminal server's network address (step 303). When a data packet is received at the host system 210, the host uses the

received terminal server identification information to determine the location of the terminal server 225 (step 304). The host system 210 may then obtain localized data from a database 214 or 215 by querying the database based on the terminal server's location (step 304). The localized data is subsequently sent from the host system to the client computer (step 305).

5   A host system may include information service databases that directly associates terminal server ID information with localized information service data and can be queried based on the terminal server ID information. In such a case, the determination of a location is implicit in the query for the localized information. Alternatively, a host system may first determine a location based on the terminal server ID and then query an information service
10   database based on the determined location. Other query systems may also be used to map terminal server identification data to localized data.

In an internet protocol (IP) implementation, the terminal server'ID information may be an internet protocol (IP) address assigned to the terminal server. The terminal server's IP address may be used to query a host database table that maps IP address information to
15   location information. Table 1 shows an exemplary database table to map IP addresses to locations.

Table 1 - Exemplary IP to Location Mapping Data

IP Address	Location	Location Name
127. 0. 0. 255	AA12	ABC Corporation
255. 255. 255. 0	BB34	Anytown USA
64. 112. 15. 86	AA12	ABC Corporation
89. 3. 255. *	CD89	Country Name
77. 4. * *	CA86	State of ABC

Using the data in Table 1, a host 2 10 receiving a data packet from a terminal server
20   having the IP address 127.0.0.255 can map the IP address to a location identifier "AA12." The host may then query an information service database 214 to obtain localized information service data corresponding to the location "AA 12." The localized information service data can then be sent back to a client for display to a user. "Wild-card" entries (shown as "*" in Table 1) can allow a broad range of addresses to be mapped to a location identifier. For
25   example, the IP address entry "77.4.*.*" in the fifth row of Table 1 will match any received IP address beginning with "77.4" to the location identifier "CA86."

Implementations may use data other than a network addresses to identify a terminal server. For example, in a simple network management protocol (SNMP)implementation, a SNMP-capable terminal server can access identification data stored in one or more of the terminal server's management information bases (MIBs)and include that identification data in data packets sent to the host 3 10. For example, a terminal server may access a MB3 containing vendor, model, and serial number information for the terminal server and can send the vendor, model, and serial number information to the hosts to be used as a terminal server identifier for localization purposes.

A host system may map a terminal server ID to a physical location or to a logical location. In a physical location mapping implementation, the terminal server ID identifies a geographic location. For example, the terminal server ID may be mapped to a region of a country and weather information service data for that region could be provided to a client. In a logical location mapping implementation, the terminal server ID identifies a logical location such as a corporation. Thus, for example, in a logical mapping implementation, a terminal server may be dedicated to clients from a particular corporation. All clients within that corporation could then receive localized news information service data discussing that corporation.

The invention may be implemented in digital electronic circuitry, or in computer hardware, firmware, software, or in combinations of them. Apparatus of the invention may be implemented in a computer program product tangibly embodied in a machine-readable storage device for execution by a programmable processor; and method steps of the invention may be performed by a programmable processor executing a program of instructions to perform functions of the invention by operating on input data and generating output. The invention may advantageously be implemented in one or more computer programs that are executable on a programmable system including at least one programmable processor coupled to receive data and instructions from, and to transmit data and instructions to, a data storage system, at least one input device, and at least one output device. Each computer program may be implemented in a high-level procedural or object-oriented programming language, or in assembly or machine language if desired; and in any case, the language may be a compiled or interpreted language. Suitable processors include, by way of example, both general and special purpose microprocessors. Generally, a processor will receive instructions and data from a read-only memory and/or a random access memory. Storage devices suitable for tangibly embodying computer program instructions and data include all forms of

nonvolatile memory, including by way of example semiconductor memory devices, such as EPROM, EEPROM, and flash memory devices; magnetic disks such as internal hard disks and removable disks; magneto-optical disks; and CD-ROM disks. Any of the foregoing may be supplemented by, or incorporated in, specially-designed ASICs (application-specific integrated circuits).

A number of embodiments of the present invention have been described. Nevertheless, it will be understood that various modifications may be made without departing from the spirit and scope of the invention. For example, the terminal server is not limited to a modem bank. A terminal server may be a proxy server, network gateway, network firewall, or other network element through which client computers connect to a host system and which allow a location to be associated with a client. [Accordingly, other embodiments are within the scope of the following claims.]

WHAT IS CLAIMED IS:

1. A [data transfer method comprising:] method for data transfer between a host system (210), a database (214, 215), and a terminal server (225, 226), the terminal server (225, 226) having a location, the method comprising the steps of:

receiving at a host system (210), terminal server identification [data] from a terminal server (225, 226);

querying a [host system] database (214, 215) to obtain [localized information] service data specific to [associated with] the location based on the terminal server identification [data]; and

automatically sending the [localized information] location specific service data from the host system (210) to the terminal server (225, 226).

2. The method of claim 1 wherein the database [comprises records associating](214, 215) includes a first record that associates the terminal server identification [data] with the location [data], and the step of querying the database [comprises](214, 215) includes a step of determining the [a] location based on the terminal server identification data from the first record.

3. The method of claim 2 wherein the database (214, 215) further includes a record that associates the location with service data that is specific to the location, and the step of [further comprises records associating location data with localized information service data, and] querying the database (214, 215) further comprises the step of determining [localized information] the location specific service data based on the determined location.

4. The method of claim 1 further comprising the steps of:

establishing a data connection between the terminal server (225, 226) and a client computer;

receiving the [localized information] location specific service data at the terminal server (225, 226); and

forwarding the [localized information] location specific service data from the terminal server (225, 226) to the client computer.

5. The method of claim 4 wherein the step of establishing a data connection is

2 **carried out prior to the step of** [comprises establishing the data connection prior to] receiving

3 the terminal server identification [data].

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2 6. The method of claim 4 wherein **the step of** establishing a data connection **further**

3 comprises **the step of** receiving a dial-up modem connection from a client computer.

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2 7. The method of claim 1 wherein the terminal server identification [data] comprises

3 a network address associated with the terminal server (225, 226).

1 8. The method of claim 7 wherein **the step of** receiving the terminal server

2 identification [data] **further** comprises **the step of** receiving a data packet from the terminal

3 server (225, 226), the data packet [comprising] **including** the terminal server (225, 226) network

4 address.

1 9. The method of claim 8 wherein the data packet [further comprises] **includes**

2 request data received at the terminal server (225, 226) from the client computer, the request

3 data identifying an information service.

1 10. The method of claim 9 wherein **the step of** querying the database (214, 215)

2 **further** comprises querying based on the terminal server identification [data

3]and the request data; and [

4]the [localized information] **location specific** service data obtained by the query **of the**

5 **database (214, 215)** is associated with both the terminal server identification data and with the

6 [information] service identified by the request data.

1 11. A host system (210) comprising:

2 a database [comprising records to associate](214, 215) **including a record associating**

3 a terminal server identification [data] with [information] service data **specific to a location**;

4 an interface [operatively coupled to a communications link] to exchange data with a

5 terminal server [; and](225, 226) **situated at a location via a communications link; and**

6 [a processor operatively coupled to the interface and to the database, the processor

7 being]a processor **configured to receive the** terminal server identification [data] from the data

8 interface, to query the database [for localized information](214, 215) **for location specific**

9 service data associated with the terminal server identification [data], and to send the [localized

10 information] **location specific** service data obtained by the query to the [data interface]

11 **datainterface** for transmission to the terminal server **(225, 226)**.

1 12. The host system **(210)** of claim 11 wherein:

2 the terminal [server] **server** identification [data] comprises a network address

3 associated with the

4 terminal server **(225, 226)**; and

5 the interface [comprises] **includes** packet processing circuitry to receive a data packet

6 from the terminal server **(225, 226)** and extract the terminal server identification from a header

7 region of the data packet.

1 13. The [server] **host system (210)** of claim 12 wherein the network address

2 comprises an internet protocol address.

1 14. The [server] **host system (210)** of claim 11 wherein the database

2 [comprises]**(214, 215) includes** a disk storage medium comprising a plurality of records [to

3 associate] **associating** terminal server **identifications with locations** [identification data with

4 location data] and a plurality of records [to associate location data with information]

5 **associating locations with** service data.

1 15. The server of claim 14 further comprising a software storage media coupled to the

2 processor, the media storing instructions to configure the processor to query the database **(214,**

3 **215)**, instructions to retrieve [location data] **locations** associated with terminal server

4 **identifications** [identification data] and instructions to query the database **(214, 215)** to

5 retrieve [information] service data associated with **locations** [location data].

1 16. A computer program residing on a computer-readable medium, comprising

2 instructions for causing a computer to:

3 receive terminal server identification [data] from a terminal server **(225, 226)**;

4 query a database **(214, 215)** to obtain [localized information] **location specific** service

5 data associated with the terminal server identification [data]; and

6 send the [localized information] **location specific** service data to the terminal server

7   (225, 226).

1   17.   The program apparatus of claim 16 wherein the instructions to query the database

2   (214, 215) comprise instructions to query the database (214, 215) to determine a location based

3   on the received terminal server identification [data].

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1   18.   The program apparatus of claim 16 wherein the terminal server identification

2   [data]comprises a network address associated with the terminal [server.19] server (225, 226).

1   **19.**   The program apparatus of claim 16 wherein the instructions to receive the

2   terminal server identification [data] comprises instructions to receive a data packet from the

3   terminal server (225, 226), the data packet [comprising] **including** the terminal server network

4   [address.20] **address.**

1   **20.**   The program apparatus of claim 19 wherein the data packet further comprises

2   request data received at the terminal server (225, 226) from [the] **a** client computer, the request

3   data identifying **a service.**

1   21 [an information service.21].   The program apparatus of claim 20 wherein:

2   the instructions to query the database [comprises](214, 215) **comprise** instructions to

3   query **the database (214, 215)** based on the terminal server identification [data] and the

4   request data; and the [localized information] **location specific** service data obtained by the

5   query is associated with both the terminal server identification [data] and with the

6   [information] service identified by the request data.

ABSTRACT

A data transfer method includes receiving terminal server identification data at a host system from a terminal server, querying a database to obtain localized information service data associated with the terminal server identification data, and sending the localized information service data from the host system to the terminal server. A host system providing localized information system data includes a database system, a network interface, and a processor. The database system includes records to associate terminal server identification data with information service data. The interface couples the host system to a communications link over which the host system can exchange data with a terminal server. The processor is coupled to the interface and to the database and is configured to receive terminal server identification data from the data interface, to query the database for localized information service data associated with the terminal server identification data, and to send the localized information service data obtained by the query to the data interface for transmission to the terminal server.

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